

1 **DIRECT TESTIMONY**

2 **OF**

3 **JEFFREY B. ARCHIE**

4 **ON BEHALF OF**

5 **SOUTH CAROLINA ELECTRIC & GAS COMPANY**

6 **DOCKET NO. 2005-2-E**

7 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION**  
8 **WITHIN SOUTH CAROLINA ELECTRIC & GAS COMPANY (SCE&G).**

9 A. My name is Jeffrey B. Archie. My business address is P.O. Box 88, Jenkinsville, South  
10 Carolina. I am employed by SCE&G as a Vice President and am currently the Vice  
11 President of Nuclear Operations at the Virgil C. Summer Nuclear Station (VCSNS or VC  
12 Summer).

13 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**  
14 **PROFESSIONAL EXPERIENCE.**

15 A. I received a BS degree in Mechanical Engineering from the University of South Carolina  
16 in 1981. I also completed VC Summer's Senior Reactor Operator Certification training  
17 program in 1996.

18 My entire professional career has been spent at VC Summer Nuclear Station working in a  
19 number of different capacities. In these various positions I have had opportunities to  
20 serve as the station's Refuel 10 Outage Manager from 1996 to 1998. In April 2001, I was  
21 promoted to General Manager of Engineering Services, and in August 2003 I was  
22 promoted to General Manager of Nuclear Plant Operations. I have been the Vice  
23 President of Nuclear Operations since August 2004.

1   **Q.     WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

2   A.     The purpose of my testimony is to review the operating performance of VCSNS during  
3         the period from March 1, 2004, through January 31, 2005.

4   **Q.     WHAT ARE YOUR OBJECTIVES IN THE OPERATION OF VCSNS?**

5   A.     Our primary objective at VCSNS is always safe operation. We also strive for excellence  
6         in all phases of operation of the facility. The station's key focus areas of Safety,  
7         Equipment Reliability, Work Management, Corrective Action, Oversight, Human  
8         Performance, and Reactivity Management, have facilitated the station's good  
9         performance through enhanced alignment of the organization.

10        Our business objectives are focused on maintaining a competitive production cost for the  
11        generation of electricity using nuclear fuel.

12   **Q.     WHAT HAS BEEN THE COMPANY'S EXPERIENCE WITH THE**  
13        **PERFORMANCE OF THE VCSNS?**

14   A.     We continuously meet or exceed all Nuclear Regulatory Commission (NRC)  
15         requirements and Institute of Nuclear Power Operations (INPO) standards. VCSNS has  
16         performed well during the period from March 1, 2004, through January 31, 2005.  
17         Consistent with the provisions of Section 58-27-865 of the South Carolina Code of Laws,  
18         as amended, VC Summer's net capacity factor based on reasonable excludable nuclear  
19         system reductions during the review period was 101.4% and the gross generation output  
20         was 8,243,175 MWHs (megawatt-hours). Our capacity factor based on standard industry  
21         metrics which include all maintenance hours was 97.12%. This excellent capacity factor  
22         placed VC Summer in the first quartile of nuclear plant capacity factor performance  
23         according to the Electric Utility Cost Group.

1 **Q. HAS VCSNS EXPERIENCED ANY OUTAGES DURING THE REVIEW**  
2 **PERIOD?**

3 A. Yes, VCSNS has experienced two outages during the review period. On the 30th of  
4 March, 2004, a plant shutdown began to support repairs to the C Reactor coolant pump  
5 seal injection line. This ¾ inch seal injection line was identified as the source of pressure  
6 boundary leakage which required a plant shutdown in accordance with plant procedures.  
7 On April 11 the repairs were completed and the main generator breaker was closed. Full  
8 power was reached on April 12.

9 On December 6, 2004, reactor power was reduced to 2% with the main turbine off-line to  
10 repair a steam leak in a one-inch turbine extraction steam line. The main turbine was  
11 returned to service and the plant achieved 100% power on December 12, 2004 following  
12 the steam leak repair.

13 **Q. DID VCSNS RECEIVE ANY AWARDS DURING THE REVIEW PERIOD?**

14 A. Yes. On January 10, 2005, VC Summer was awarded the 2004 “World-Class ALARA  
15 Performer Award” by the North American Technical Center, Information System on  
16 Occupational Exposure (ISOE). The ISOE is sponsored by the International Atomic  
17 Energy Agency located in Vienna and the international Nuclear Energy Agency located  
18 in Paris. The North American Technical Center of the ISOE is located at the College of  
19 Engineering, University of Illinois. The ISOE program is supported by 407 reactors from  
20 26 countries representing 72 utilities globally or 93% of the worlds operating commercial  
21 nuclear reactors. Regulatory authorities from 25 countries also participate in the ISOE  
22 program.

1 VC Summer is the 8<sup>th</sup> recipient of this prestigious award. The selection is made by peer  
2 radiation protection managers who previously received the award. The ISOE award  
3 focuses on plants which have had significant ALARA (As Low As Reasonably  
4 Achievable) successes over the past few years.

5 **Q. WHEN WILL THE NEXT REFUELING OUTAGE OCCUR?**

6 A. Refueling outages are scheduled every 18 months to replace depleted fuel assemblies.  
7 Simultaneously, maintenance and testing that cannot be done with the plant on-line is  
8 conducted. Refueling was not conducted during the review period. Our next refueling  
9 outage will be RF15 starting on April 22, 2005.

10 **Q. PLEASE EXPLAIN THE ROLES OF INPO AND THE NRC WITHIN THE**  
11 **NUCLEAR INDUSTRY AND DESCRIBE ANY RANKINGS RECEIVED BY**  
12 **VCSNS FROM THOSE AGENCIES.**

13 A. INPO is a nonprofit corporation established by the nuclear industry to promote the  
14 highest levels of nuclear safety and plant reliability. INPO promotes excellence in the  
15 industry in the operation of nuclear electric generating plants. For the applicable  
16 reporting period, INPO rated VCSNS's overall performance as exemplary.

17 The NRC is responsible for the licensing and oversight of the civilian use of nuclear  
18 materials in the United States. VCSNS received the NRC's most favorable rating level  
19 for a nuclear power plant. This rating was based on all inspection findings being  
20 classified as having very low safety significance and all performance indicators at a level  
21 requiring no additional NRC oversight during the review period. Due to this rating, the  
22 NRC currently implements only its baseline inspection program at VCSNS.

1    **Q.     DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

2    **A.     Yes.**